

Opportunity Title: Toxicological Assessment of Novel Small Molecules

Opportunity Reference Code: DHA-JBSA-2020-0001

Organization U.S. Department of Defense (DOD)

Reference Code DHA-JBSA-2020-0001

How to Apply Components of the online application are as follows:

- Profile Information
- Educational and Employment History
- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume (PDF)
- Transcripts/Academic Records
- Recommendation

Submitted documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blacked out, blackened out, made illegible, etc.) prior to uploading into the application system.

If you have questions, send an email to stem-workforce@orise.orau.gov. Please list the reference code of this opportunity in the subject line of the email.

All documents must be in English or include an official English translation.

Description Join the US Air Force and Defense Health Agency in cutting edge research to advance the field of predictive toxicology! Participant will engage in development and assessment of novel high throughput computational and in vitro methodologies to investigate the toxicity and compatibility of novel small molecules for applications such as hemorrhage control, pathogen detection, and toxin neutralization. Participant will have access to advanced robotics and spectrometry equipment for establishing high throughput screening techniques. This project is part of the Accelerated Molecule Discovery Program sponsored by DARPA.

Under the guidance of a mentor, the participant will engage in the following activities which will advance the field of high throughput toxicological screening. This research is part of a large program geared towards advancing discovery of novel, safe small molecules for a myriad of applications including environmental and medical sensing, therapeutics, diagnostics, and other applications. Activities will include:

- 384 well plate assay development
- Human Primary and cell line culturing technique
- Metabolic assay
- Apoptosis assay
- Robotic assay development and programming
- Computational dataset generation for artificial intelligence and predictive toxicology
- Small molecule development and design with partnering scientists at MIT, Sri, and University of Toronto.

Appointment Length

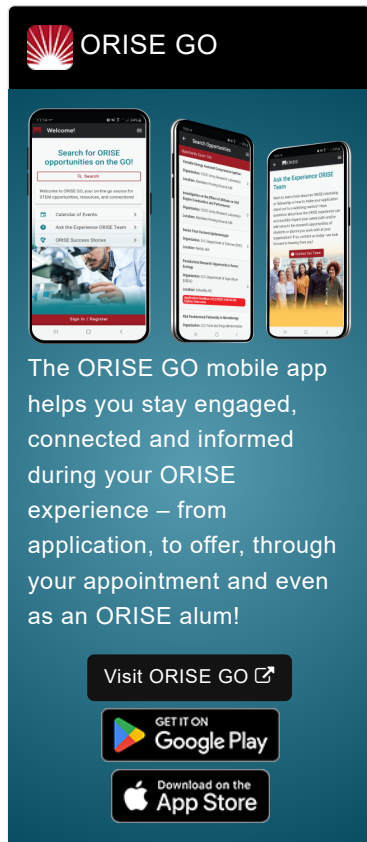
This appointment is a twelve month research appointment, with the possibility to be renewed for additional research periods. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.

Participant Benefits

Participants will receive a stipend to be determined by DHA. Stipends are typically based on the





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participant's academic standing, discipline, experience, and research facility location. Other benefits may include the following:

- Health Insurance Supplement. *Participants are eligible to purchase health insurance through ORISE.*
- Relocation Allowance
- Training and Travel Allowance

Nature of Appointment

The participant will not enter into an employee/employer relationship with ORISE, ORAU, DOD, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

While participants will not enter into an employment relationship with DOD or any other agency, this opportunity will require a suitability investigation/background investigation. Any offer made is considered tentative pending favorable outcome of the investigation.

Qualifications

- Possess a PhD in Toxicology, Pharmacology, or closely related discipline
- Have demonstrated professional competence and success in the form of peer-reviewed publications and presentations
- Display knowledge and competency in pharmacokinetic modeling, absorption, distribution, metabolism, and excretion pathways
- Have practical and functional knowledge of computational algorithms used in predictive toxicology (e.g TOPKAT)
- Have bench skills including proficiency in cell culture, and in vitro screening assays such as ATP, LDH, MTT/WST, microscopy, ELISA, DNA/RNA isolation and rtPCR.
- Familiarity with graphing software such as Graphpad Prism and Sigma plot
- Have excellent independence and communication skills

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 5/31/2020 11:59:00 PM.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#))
 - **Communications and Graphics Design** ([2](#))
 - **Computer, Information, and Data Sciences** ([16](#))
 - **Earth and Geosciences** ([21](#))
 - **Engineering** ([27](#))
 - **Environmental and Marine Sciences** ([14](#))
 - **Life Health and Medical Sciences** ([45](#))
 - **Mathematics and Statistics** ([10](#))
 - **Other Non-Science & Engineering** ([2](#))
 - **Physics** ([16](#))
 - **Science & Engineering-related** ([1](#))
 - **Social and Behavioral Sciences** ([27](#))